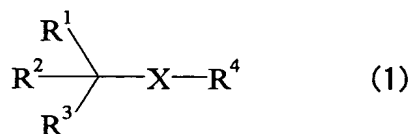


CLAIMS

1. A compound represented by the following formula

(1):



5 {wherein:

X represents -S-, -SO- or -SO₂-;

R¹ represents:

-C(R⁵)(R⁶)(R⁷)

[in which, R⁵, R⁶ and R⁷ each independently represents a

10 halogen atom, cyano group, nitro group or -Q⁵¹-Q⁵²-Q⁵³-Q⁵⁴

[in which, Q⁵¹ represents a single bond, -CO-, -CS-, -SO-,
-SO₂-, -CO-CO-, -CO-CS-, -CS-CO- or -CS-CS-,

Q⁵² represents a single bond, -O-, -O-N(A⁵¹)-, -O-

N(COA⁵¹)-, -N(A⁵¹)-, -N(COA⁵¹)-, -N(COOA⁵¹)-, -

15 N(CON(A⁵¹)(A⁵²)-, -N(OA⁵¹)-, -N(NA⁵¹A⁵²)-, -N(A⁵¹)-N(A⁵²)-, -

N(COA⁵¹)-N(A⁵²)-, -N(A⁵¹)-O-, -N(COA⁵¹)-O-, -S-, -N=N-, -

C(A⁵¹)=N-, -C(A⁵¹)=N-O-, -C(A⁵¹)=N-N(A⁵²)-, -N=C(A⁵¹)-, -O-

N=C(A⁵¹)-, -(NA⁵¹)-N=C(A⁵²)- or -C(=NA⁵¹)-N(A⁵²)-

(in which, A⁵¹ and A⁵² each independently represents a

20 hydrogen atom, a hydrocarbon group which may have a

substituent or a heterocyclic group which may have a
substituent),

Q⁵³ represents a single bond, -CO-, -CS-, -SO-, -SO₂-, -

CO-CO-, -CO-CS-, -CS-CO- or -CS-CS-,

Q^{54} represents $-A^{53}$, $-OA^{53}$, $-N(A^{53})(A^{54})$, $-SA^{53}$, $-NA^{54}-OA^{53}$,
 $-NA^{55}-N(A^{53})(A^{54})$ or $-O-N(A^{53})(A^{54})$

(in which, A^{53} , A^{54} and A^{55} each independently represents
5 a hydrogen atom, a hydrocarbon group which may have a
substituent or a heterocyclic group which may have a
substituent)], or

R^5 and R^6 may be coupled together to form a cyclic
hydrocarbon group which may have a substituent or a
10 heterocyclic group which may have a substituent (when
the cyclic hydrocarbon group or heterocyclic group
formed by coupling of R^5 and R^6 is unsaturated, R^7
represents the corresponding unsaturated bond)],

$-N(R^8)(R^9)$

15 [in which, R^8 and R^9 each independently represents $-Q^{81}-$
 $Q^{82}-Q^{83}-Q^{84}$

[in which, Q^{81} represents a single bond, -CO-, -CS-, -SO-,
-SO₂-, -CO-CO-, -CO-CS-, -CS-CO- or -CS-CS-,

Q^{82} represents a single bond, -O-, -O- $N(A^{81})$ -, -O-

20 $N(COA^{81})$ -, $-N(A^{81})$ -, $-N(COA^{81})$ -, $-N(COOA^{81})$ -, -

$N(CON(A^{81})(A^{82}))$ -, $-N(OA^{81})$ -, $-N(NA^{81}A^{82})$ -, $-N(A^{81})-N(A^{82})$ -,

$-N(COA^{81})-N(A^{82})$ -, $-N(A^{81})-O$ -, $-N(COA^{81})-O$ -, -S-, -N=N-, -

$C(A^{81})=N$ -, $-C(A^{81})=N-O$ -, $-C(A^{81})=N-N(A^{82})$ -, $-N=C(A^{81})$ -, -O-

$N=C(A^{81})$ -, $-(NA^{81})-N=C(A^{82})$ - or $-C(=NA^{81})-N(A^{82})$ -

25 (in which, A^{81} and A^{82} each independently represents a

hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent),

Q^{83} represents a single bond, -CO-, -CS-, -SO-, -SO₂-, -CO-CO-, -CO-CS-, -CS-CO- or -CS-CS-,

Q^{84} represents -A⁸³, -OA⁸³, -N(A⁸³)(A⁸⁴), -SA⁸³, -NA⁸⁴-OA⁸³, -NA⁸⁵-N(A⁸³)(A⁸⁴) or -O-N(A⁸³)(A⁸⁴)

(in which, A⁸³, A⁸⁴ and A⁸⁵ each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent)]],

-X¹R¹⁰

[in which, X¹ represents -O- or -S- and R¹⁰ represents -Q¹⁰¹-Q¹⁰²-Q¹⁰³-Q¹⁰⁴,

[in which, Q¹⁰¹ represents a single bond, -CO-, -CS-, -SO-, -SO₂-, -CO-CO-, -CO-CS-, -CS-CO- or -CS-CS-,

Q¹⁰² represents a single bond, -O-, -O-N(A¹⁰¹)-, -O-N(COA¹⁰¹)-, -N(A¹⁰¹)-, -N(COA¹⁰¹)-, -N(COOA¹⁰¹)-, -

N(CON(A¹⁰¹)(A¹⁰²))-, -N(OA¹⁰¹)-, -N(NA¹⁰¹A¹⁰²)-, -N(A¹⁰¹)-

N(A¹⁰²)-, -N(COA¹⁰¹)-N(A¹⁰²)-, -N(A¹⁰¹)-O-, -N(COA¹⁰¹)-O-, -

S-, -N=N-, -C(A¹⁰¹)=N-, -C(A¹⁰¹)=N-O-, -C(A¹⁰¹)=N-N(A¹⁰²)-, -N=C(A¹⁰¹)-, -O-N=C(A¹⁰¹)-, -(NA¹⁰¹)-N=C(A¹⁰²)- or -

C(=NA¹⁰¹)-N(A¹⁰²)-

(in which, A¹⁰¹ and A¹⁰² each independently represents a

hydrogen atom, a hydrocarbon group which may have a

substituent or a heterocyclic group which may have a substituent),

Q^{103} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

5 Q^{104} represents $-A^{103}$, $-OA^{103}$, $-N(A^{103})(A^{104})$, $-SA^{103}$, $-NA^{104}-OA^{103}$, $-NA^{105}-N(A^{103})(A^{104})$ or $-O-N(A^{103})(A^{104})$

(in which, A^{103} , A^{104} and A^{105} each independently

represents a hydrogen atom, a hydrocarbon group which

may have a substituent or a heterocyclic group which may

10 have a substituent)]], or

$-X^2R^{11}$

[in which, X^2 represents $-SO-$ or $-SO_2-$ and R^{11} represents $-Q^{111}-Q^{112}-Q^{113}-Q^{114}$,

15 [in which, Q^{111} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

Q^{112} represents a single bond, $-O-$, $-O-N(A^{111})-$, $-O-N(COA^{111})-$, $-N(A^{111})-$, $-N(COA^{111})-$, $-N(COOA^{111})-$, $-N(CON(A^{111})(A^{112}))-$, $-N(OA^{111})-$, $-N(NA^{111}A^{112})-$, $-N(A^{111})-N(A^{112})-$, $-N(COA^{111})-N(A^{112})-$, $-N(A^{111})-O-$, $-N(COA^{111})-O-$, $-S-$, $-N=N-$, $-C(A^{111})=N-$, $-C(A^{111})=N-O-$, $-C(A^{111})=N-N(A^{112})-$, $-N=C(A^{111})-$, $-O-N=C(A^{111})-$, $-(NA^{111})-N=C(A^{112})-$ or $-C(=NA^{111})-N(A^{112})-$

20 (in which, A^{111} and A^{112} each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a

25

substituent),

Q^{113} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

Q^{114} represents $-A^{113}$, $-OA^{113}$, $-N(A^{113})(A^{114})$, $-SA^{113}$, $-NA^{114}-OA^{113}$, $-NA^{115}-N(A^{113})(A^{114})$ or $-O-N(A^{113})(A^{114})$

(in which, A^{113} , A^{114} and A^{115} each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent)]];

R^2 represents $-Q^{21}-Q^{22}-Q^{23}-Q^{24}$

[in which, Q^{21} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

Q^{22} represents a single bond, $-O-$, $-O-N(A^{21})-$, $-O-N(COA^{21})-$, $-N(A^{21})-$, $-N(COA^{21})-$, $-N(COOA^{21})-$, $-$

$N(CON(A^{21})(A^{22}))-$, $-N(OA^{21})-$, $-N(NA^{21}A^{22})-$, $-N(A^{21})-N(A^{22})-$, $-N(COA^{21})-N(A^{22})-$, $-N(A^{21})-O-$, $-N(COA^{21})-O-$, $-S-$, $-N=N-$, $-C(A^{21})=N-$, $-C(A^{21})=N-O-$, $-C(A^{21})=N-N(A^{22})-$, $-N=C(A^{21})-$, $-O-N=C(A^{21})-$, $-(NA^{21})-N=C(A^{22})-$ or $-C(=NA^{21})-N(A^{22})-$

(in which, A^{21} and A^{22} each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent),

Q^{23} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

Q^{24} represents $-A^{23}$, $-OA^{23}$, $-N(A^{23})(A^{24})$, $-SA^{23}$, $-NA^{24}-OA^{23}$,

-NA²⁵-N(A²³)(A²⁴) or -NA²⁵-N(A²³)(A²⁴)

(in which, A²³, A²⁴ and A²⁵ each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent)]; or

R¹ and R² may be coupled together to form a cyclic hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent, or may be coupled together to form =CR¹²R¹³

[in which, R¹² and R¹³ each independently represents a halogen atom, cyano group, nitro group or -Q¹²¹-Q¹²²-Q¹²³-Q¹²⁴,

[in which, Q¹²¹ represents a single bond, -CO-, -CS-, -SO-, -SO₂-, -CO-CO-, -CO-CS-, -CS-CO- or -CS-CS-,

Q¹²² represents a single bond, -O-, -O-N(A¹²¹)-, -O-N(COA¹²¹)-, -N(A¹²¹)-, -N(COA¹²¹)-, -N(COOA¹²¹)-, -N(CON(A¹²¹)(A¹²²))-, -N(OA¹²¹)-, -N(NA¹²¹A¹²²)-, -N(A¹²¹)-N(A¹²²)-, -N(COA¹²¹)-N(A¹²²)-, -N(A¹²¹)-O-, -N(COA¹²¹)-O-, -S-, -N=N-, -C(A¹²¹)=N-, -C(A¹²¹)=N-O-, -C(A¹²¹)=N-N(A¹²²)-, -N=C(A¹²¹)-, -O-N=C(A¹²¹)-, -(NA¹²¹)-N=C(A¹²²)- or -C(=NA¹²¹)-N(A¹²²)-

(in which, A¹²¹ and A¹²² each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent),

Q^{123} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

Q^{124} represents $-A^{123}$, $-OA^{123}$, $-N(A^{123})(A^{124})$, $-SA^{123}$, $-NA^{124}-OA^{123}$, $-NA^{125}-N(A^{123})(A^{124})$ or $-O-N(A^{123})(A^{124})$

5 (in which, A^{123} , A^{124} and A^{125} each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent)]];

R^3 represents $-Q^{31}-Q^{32}-Q^{33}-Q^{34}$,

10 [in which, Q^{31} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

Q^{32} represents a single bond, $-O-$, $-O-N(A^{31})-$, $-O-N(COA^{31})-$, $-N(A^{31})-$, $-N(COA^{31})-$, $-N(COOA^{31})-$, $-$

15 $-N(CON(A^{31})(A^{32}))-$, $-N(OA^{31})-$, $-N(NA^{31}A^{32})-$, $-N(A^{31})-N(A^{32})-$, $-N(COA^{31})-N(A^{32})-$, $-N(A^{31})-O-$, $-N(COA^{31})-O-$, $-S-$, $-N=N-$, $-C(A^{31})=N-$, $-C(A^{31})=N-O-$, $-C(A^{31})=N-N(A^{32})-$, $-N=C(A^{31})-$, $-O-N=C(A^{31})-$, $-(NA^{31})-N=C(A^{32})-$ or $-C(=NA^{31})-N(A^{32})-$

20 (in which, A^{31} and A^{32} each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent),

Q^{33} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

25 Q^{34} represents $-A^{33}$, $-OA^{33}$, $-N(A^{33})(A^{34})$, $-SA^{33}$, $-NA^{34}-OA^{33}$, $-NA^{35}-N(A^{33})(A^{34})$ or $-O-N(A^{33})(A^{34})$

(in which, A^{33} , A^{34} and A^{35} each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent)];

5 R^4 represents $-Q^{41}-Q^{42}-Q^{43}-Q^{44}$,

[in which, Q^{41} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

Q^{42} represents a single bond, $-O-$, $-O-N(A^{41})-$, $-O-$

$N(COA^{41})-$, $-N(A^{41})-$, $-N(COA^{41})-$, $-N(COOA^{41})-$, $-$

10 $N(CON(A^{41})(A^{42}))-$, $-N(OA^{41})-$, $-N(NA^{41}A^{42})-$, $-N(A^{41})-N(A^{42})-$,

$-N(COA^{41})-N(A^{42})-$, $-N(A^{41})-O-$, $-N(COA^{41})-O-$, $-S-$, $-N=N-$, $-$

$C(A^{41})=N-$, $-C(A^{41})=N-O-$, $-C(A^{41})=N-N(A^{42})-$, $-N=C(A^{41})-$, $-O-$

$N=C(A^{41})-$, $-(NA^{41})-N=C(A^{42})-$ or $-C(=NA^{41})-N(A^{42})-$

(in which, A^{41} and A^{42} each independently represents a

15 hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent),

Q^{43} represents a single bond, $-CO-$, $-CS-$, $-SO-$, $-SO_2-$, $-CO-CO-$, $-CO-CS-$, $-CS-CO-$ or $-CS-CS-$,

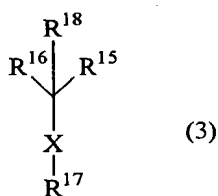
20 Q^{44} represents $-A^{43}$, $-OA^{43}$, $-N(A^{43})(A^{44})$, $-SA^{43}$, $-NA^{44}-OA^{43}$, $-NA^{45}-N(A^{43})(A^{44})$ or $-O-N(A^{43})(A^{44})$

(in which, A^{43} , A^{44} and A^{45} each independently represents a hydrogen atom, a hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent)]; or

25

R³ and R⁴ may be coupled together to form a cyclic hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent}, N-oxide or S-oxide of the compound, salt thereof, or solvate of the above-described compound.

2. A compound represented by the following formula (3):



(wherein, R¹⁵ represents a heterocyclic group which may have a substituent, R¹⁶ represents a cyclic hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent, R¹⁷ represents a cyclic hydrocarbon group which may have a substituent or a heterocyclic group which may have a substituent, R¹⁸ represents a hydrogen atom or a C₁₋₆ alkyl group and X represents -S-, -SO- or -SO₂-); or N-oxide or S-oxide of the compound; salt thereof; or solvate of the above-described compound.

3. A compound of Claim 2, wherein X represents -SO- or -SO₂-; or N-oxide or S-oxide of the compound; salt thereof; or solvate of the above-described compound.

4. A compound of Claim 2, wherein X represents -SO₂-

; or N-oxide or S-oxide of the compound; salt thereof; or solvate of the above-described compound.

5. A compound of any one of Claims 2 to 4, wherein the heterocyclic group represented by R^{15} , R^{16} or R^{17} is a 3-
5 to 7-membered saturated or 4- to 7-membered unsaturated monocyclic heterocyclic group having from 1 to 4 atoms selected from nitrogen atom, oxygen atom and sulfur atom, or a 7- to 14-membered polycyclic heterocyclic group having from 1 to 4 atoms selected from nitrogen atom, oxygen atom
10 and sulfur atom; or N-oxide or S-oxide of the compound; salt thereof; or solvate of the above-described compound.

6. A compound of any one of Claims 2 to 5, wherein the cyclic hydrocarbon group represented by R^{16} or R^{17} is a
cycloalkyl group having from 3 to 7 carbon atoms,
15 cycloalkenyl group having from 4 to 7 carbon atoms, monocyclic or polycyclic aromatic hydrocarbon group having from 6 to 14 carbon atoms, spirohydrocarbon group having from 7 to 11 carbon atoms, crosslinked cyclic hydrocarbon
group having from 7 to 10 carbon atoms or condensed
20 polycyclic hydrocarbon group having from 8 to 14 carbon atoms; or N-oxide or S-oxide of the compound; salt thereof; or solvate of the above-described compound.

7. A compound of any one of Claims 2 to 6, wherein the substituent for the cyclic hydrocarbon group or
25 heterocyclic group represented by R^{15} , R^{16} , or R^{17} is a group

$-Q^{201}-Q^{202}-Q^{203}-Q^{204}-Q^{205}-Q^{206}-Q^{207}$, in which Q^{201} represents a
 single bond, an alkyl group having from 1 to 6 carbon atoms,
 an alkenyl group having from 2 to 6 carbon atoms or a
 heterocyclic group; Q^{202} represents a single bond, -O-, -NH-,
 5 -CH=N-, -C(alkyl)=N-, -N(alkyl)- or -S-; Q^{203} represents a
 single bond, -CO-, -CS-, -SO-, -SO₂- or -CONH-; Q^{204}
 represents a single bond, an alkyl group from 1 to 6 carbon
 atoms, an alkenyl group having from 2 to 6 carbon atoms, a
 cycloalkyl group, a cycloalkenyl group, an aromatic
 10 hydrocarbon group or a heterocyclic group; Q^{205} represents a
 single bond, -NH- or -N(alkyl)-; Q^{206} represents a single
 bond, -O-, -CO-, -CS-, -SO₂-, -SO- or -S-; and Q^{207}
 represents a hydrogen atom, a halogen atom, a hydroxy group,
 an oxo group, a C₁₋₆ alkyl group, a C₂₋₆ alkenyl group, a C₃₋₈
 15 cycloalkyl group, a C₁₋₆ alkoxy group, a C₂₋₆ alkenyloxy
 group, an azide group, a cyano group, an amino group, a C₁₋₆
 alkylamino group, a di(C₁₋₆ alkyl)amino group, a C₂₋₆
 alkanoylamino group, a di(C₂₋₆ alkanoy)amino group, a
 carboxyamino group, a C₁₋₆ alkoxycarbonylamino group, a
 20 di(C₁₋₆ alkoxy)carbonylamino group, a heterocyclic group, an
 aromatic hydrocarbon group, a cycloalkenyl group, a
 heterocyclic oxy group, or an aromatic hydrocarbon-oxy
 group (wherein, the alkyl group having from 1 to 6 carbon
 atoms, alkenyl group having from 2 to 6 carbon atoms,
 25 cycloalkyl group, cycloalkenyl group, heterocyclic group,

heterocyclic-oxy group, aromatic hydrocarbon group or
 aromatic hydrocarbon-oxy group may be substituted with 1 to
 3 substituents selected from halogen atoms, C₁₋₆ alkyl
 groups, C₁₋₆ alkoxy groups, C₂₋₆ alkenyl groups, carboxyamino
 5 C₁₋₆ alkyl groups, C₁₋₆ alkoxycarbonylamino C₁₋₆ alkyl groups,
 formyl group, C₂₋₆ alkanoyl groups, oxo group, nitro group,
 cyano group, azide group, amidino group, C₂₋₆ alkenyloxy
 groups, hydroxy group, carboxyl group, C₇₋₁₆ aralkyl groups,
 thioxo group, C₂₋₇ alkanoyl groups, C₂₋₇ thioalkanoyl groups,
 10 thioformyl group, amino group, C₁₋₆ alkylamino groups,
 di(C₁₋₆ alkyl)amino groups, C₁₋₆ alkoxycarbonyl groups,
 carbamoyl group, C₁₋₆ alkylcarbamoyl groups, di(C₁₋₆
 alkyl)carbamoyl groups, thiocarbamoyl group, C₁₋₆
 alkylthiocarbamoyl groups, di(C₁₋₆ alkyl)thiocarbamoyl
 15 groups, C₁₋₆ alkoxycarbamoylamino groups,
 C₁₋₆ alkoxycarbamoyl(C₁₋₆ alkyl)amino groups, C₂₋₇
 alkanoylamino groups, C₂₋₇ alkanoyl (C₁₋₆ alkyl)amino groups,
 thio C₂₋₇ alkanoylamino groups, thio C₂₋₇ alkanoyl (C₁₋₆
 alkyl)amino groups, formylamino group, formyl(C₁₋₆
 20 alkyl)amino groups, thioformylamino group, thioformyl(C₁₋₆
 alkyl)amino groups, C₂₋₇ alkanoyloxy groups, formyloxy group,
 C₁₋₆ alkoxycarbonyloxy groups, carbamoyloxy group, C₁₋₆
 alkylcarbamoyloxy groups, di(C₁₋₆ alkyl)carbamoyloxy groups,
 aminocarbonylamino group, (C₁₋₆ alkyl)aminocarbonylamino
 25 groups, di(C₁₋₆ alkyl)aminocarbonylamino groups,

aminocarbonyl(C₁₋₆ alkyl)amino groups, (C₁₋₆ alkyl)aminocarbonyl(C₁₋₆ alkyl)amino groups, di(C₁₋₆ alkyl)aminocarbonyl(C₁₋₆ alkyl)amino groups, mercapto group, C₁₋₆ alkylthio groups, C₁₋₆ alkylsulfinyl groups, C₁₋₆ alkylsulfonyl groups, aminosulfonyl group, C₁₋₆ alkylaminosulfonyl groups, di(C₁₋₆ alkyl)aminosulfonyl groups, C₁₋₆ alkylsulfonylamino groups, C₁₋₆ alkylsulfonyl(C₁₋₆ alkyl)amino groups, aminosulfonylamino group, C₁₋₆ alkylaminosulfonylamino groups, di(C₁₋₆ alkyl)aminosulfonylamino groups, aminosulfonyl(C₁₋₆ alkyl)amino groups, C₁₋₆ alkylaminosulfonyl(C₁₋₆ alkyl)amino groups, and di(C₁₋₆ alkyl)aminosulfonyl(C₁₋₆ alkyl)amino groups; or N-oxide or S-oxide of the compound; salt thereof; or solvate of the above-described compound.

8. A compound of any one of Claims 2 to 7, wherein R¹⁶ and R¹⁷ each represents a monocyclic or polycyclic aromatic hydrocarbon group having from 6 to 14 carbon atoms, or a heterocyclic group (in which, the hydrocarbon group or heterocyclic group may have 1 to 3 substituents selected from halogen atoms, C₁₋₆ alkyl groups, C₁₋₆ alkoxy groups, C₂₋₆ alkenyl groups, formyl group, C₂₋₆ alkanoyl groups, carboxyl group, carboxyamino C₁₋₆ alkyl groups, C₁₋₆ alkoxycarbonylamino C₁₋₆ alkyl groups, oxo group, nitro group, cyano group, amidino group, C₂₋₇ alkenyloxy groups, hydroxy group, thioxo group, amino group, C₁₋₆ alkylamino

groups, di C₁₋₆ alkylamino groups, C₁₋₆ alkoxy carbonyl groups, carbamoyl group, C₁₋₆ alkyl carbamoyl groups, di C₁₋₆ alkyl carbamoyl groups, thiocarbamoyl group, C₁₋₆ alkylthiocarbamoyl groups, di C₁₋₆ alkylthiocarbamoyl groups, mercapto group, C₁₋₆ alkylthio groups, C₁₋₆ alkylsulfinyl groups and C₁₋₆ alkylsulfonyl groups); and

R¹⁵ represents a heterocyclic group (in which, the heterocyclic group may be substituted with a halogen atom, C₁₋₆ alkyl group, C₁₋₆ alkoxy group, C₂₋₆ alkenyl group, C₂₋₆ alkenyloxy group, hydroxy group, carboxyl group, carboxy C₁₋₆ alkyl group, C₁₋₆ alkoxy carbonyl C₁₋₆ alkyl group, C₁₋₆ alkoxy carbonyl-C₂₋₆ alkenyl group, hydroxyl C₁₋₆ alkyl group, C₆₋₁₄ aromatic hydrocarbon-sulfonyl C₁₋₆ alkyl group, heterocyclic-C₁₋₆ alkylamino group, heterocyclic group, heterocyclic-C₁₋₆ alkyl group, C₆₋₁₄ aromatic hydrocarbon group, C₆₋₁₄ aromatic hydrocarbon C₁₋₆ alkyl group, C₆₋₁₄ aromatic hydrocarbon thio C₁₋₆ alkyl group, azido-(C₁₋₆ alkyl) group, amino C₁₋₆ alkyl group, C₁₋₆ alkylamino C₁₋₆ alkyl group, di C₁₋₆ alkylamino C₁₋₆ alkyl group, hydroxyl C₁₋₆ alkylamino C₁₋₈ alkyl group, C₁₋₆ alkoxy C₁₋₆ alkylamino C₁₋₆ alkyl group, (hydroxy C₁₋₆ alkyl)(C₁₋₆ alkoxy C₁₋₆ alkyl)amino C₁₋₆ alkyl group, C₂₋₆ alkanoylamino C₁₋₆ alkyl group, C₆₋₁₄ aromatic hydrocarbon sulfonylamino C₁₋₆ alkyl group, C₁₋₆ alkoxy carbonylamino C₁₋₆ alkyl group, carbamoylamino C₁₋₆ alkyl group, N-alkyl carbamoylamino C₁₋₆

alkyl group, N,N-dialkylcarbamoxyamino C₁₋₆ alkyl group,
aminosulfonylamino C₁₋₆ alkyl group, N-alkylsulfonylamino
C₁₋₆ alkyl group, N,N-dialkylsulfonylamino C₁₋₆ alkyl group,
C₆₋₁₄ aromatic hydrocarbon C₁₋₆ alkylamino group,
5 heterocyclic C₁₋₆ alkylamino group, carbamoyloxy C₁₋₆ alkyl
group, N-alkylcarbamoyloxy C₁₋₆ alkyl group, N,N-
dialkylcarbamoyloxy C₁₋₆ alkyl group, C₆₋₁₄ aromatic
hydrocarbon-C₁₋₆ alkylcarbamoyloxy C₁₋₆ alkyl group, C₁₋₆
alkoxycarbonyloxy-C₁₋₆ alkyl group, C₆₋₁₄ aromatic
10 hydrocarbonoxycarbonyloxy C₁₋₆ alkyl group, C₆₋₁₄ aromatic
hydrocarbonsulfonylamino-C₁₋₆ alkanoylamino C₁₋₆ alkyl group,
C₁₋₆ alkoxycarbonylamino C₁₋₆ alkylamino group, amino C₁₋₆
alkylamino group, C₁₋₆ alkylamino C₁₋₆ alkylamino group,
di(C₁₋₆ alkyl)amino C₁₋₆ alkylamino group, carboxyamino C₁₋₆
15 alkyl group, C₁₋₆ alkoxycarbonylamino C₁₋₆ alkyl group, C₁₋₆
alkylsulfonylamino C₁₋₆ alkyl group, amino C₁₋₆
alkylcarbonylamino C₁₋₆ alkyl group, N-C₁₋₆ alkylamino C₁₋₆
alkylcarbonylamino C₁₋₆ alkyl group, N,N-di C₁₋₆ alkylamino
C₁₋₆ alkylcarbonylamino C₁₋₆ alkyl group, heterocyclic
20 carbonyl group, heterocyclic carbonylamino group, C₆₋₁₄
aromatic hydrocarboncarbonyl group, C₆₋₁₄ aromatic
carbonylamino group, heterocyclic C₁₋₆ alkylcarbonylamino
C₁₋₆ alkyl group, heterocyclic C₂₋₆ alkenylcarbonylamino C₁₋₆
alkyl group, C₆₋₁₄ aromatic hydrocarbonalkenylcarbonylamino
25 C₁₋₆ alkyl group, C₆₋₁₄ aromatic hydrocarboncarbonylamino C₁₋₆

alkyl group, heterocyclic carbonylamino C₁₋₆ alkyl group,
 C₁₋₆ alkoxyoxalylamino C₁₋₆ alkyl group, carbamoyl group, N-
 C₁₋₆ alkylcarbamoyl group, N,N-di C₁₋₆ alkylcarbamoyl group,
 C₁₋₆ alkyl-C₃₋₈ cycloalkylcarbamoyl group, C₃₋₈ cycloalkyl-C₁₋₆
 5 alkylcarbamoyl group, heterocyclic carbamoyl group, C₁₋₆
 aromatic carbamoyl group, heterocyclic
 carbonylhydrazonomethyl group, C₆₋₁₄ aromatic
 hydrocarboncarbonylhydrazonomethyl group, C₁₋₆ alkylthio C₁₋₆
 alkylcarbamoyl group, C₁₋₆ alkylsulfinyl C₁₋₆ alkylcarbamoyl
 10 group, C₁₋₆ alkylsulfonyl C₁₋₆ alkylcarbamoyl group,
 hydroxyaminocarbonyl group, hydrazinocarbonyl group or N-
 C₁₋₆ alkylhydrazinocarbonyl group, thioformylamino-C₆₋₁₄
 aromatic hydrocarbon-thiocarbonylamino C₁₋₆ alkyl group,
 thioformyl-(C₁₋₆ alkylamino-C₆₋₁₄ aromatic hydrocarbon-
 15 thiocarbonylamino C₁₋₆ alkyl group, formylamino-C₆₋₁₄
 aromatic hydrocarbon-carbonylamino C₁₋₆ alkyl group,
 formyl-C₁₋₆ alkylamino-C₆₋₁₄ aromatic hydrocarbon-
 carbonylamino C₁₋₆ alkyl group, C₁₋₆ alkanoyl-heterocycle-
 carbonylamino C₁₋₆ alkyl group, di(C₂₋₆ alkanoyl)amino(C₁₋₆
 20 alkyl) group, di(C₁₋₆ alkoxy carbonyl)amino C₁₋₆ alkyl group,
 C₁₋₆ alkyl-heterocycle-carbonyl group, C₃₋₇ cycloalkyl C₁₋₆
 alkylaminocarbonyl group, C₁₋₆ alkoxyaminocarbonyl group,
 (hydroxy)(C₁₋₆ alkyl)aminocarbonyl group, (C₁₋₆ alkoxy)(C₁₋₆
 alkyl)aminocarbonyl group, N'-C₁₋₆ alkylhydrazinocarbonyl
 25 group, N',N'-di C₁₋₆ alkylhydrazinocarbonyl group, N,N'-di

C₁₋₆ alkylhydrazinocarbonyl group, N,N',N'-tri C₁₋₆
 alkylhydrazinocarbonyl group, N'-(heterocycle-carbonyl)-
 hydrazinocarbonyl group, formyl group, hydroxyimino group,
 C₁₋₆ alkoxyimino group, bis(C₁₋₆ alkoxy C₁₋₆ alky)amino C₁₋₆
 5 alkyl group, hydroxy-C₁₋₆ alkyl-heterocyclic group, C₁₋₆
 alkoxy-C₁₋₆ alkyl-heterocyclic group, C₁₋₆
 alkoxycarbonylamino C₁₋₆ alkyl-heterocyclic group, amino C₁₋₆
 alkyl-heterocyclic group, N-C₁₋₆ alkylamino C₁₋₆ alkyl-
 heterocyclic group, N,N-di C₁₋₆ alkylamino C₁₋₆ alkyl-
 10 heterocyclic group, hydroxy-heterocyclic group, C₁₋₆ alkoxy-
 heterocyclic group, carboxy-C₂₋₅ alkenyl group, or oxo group
 (wherein, the above-described C₆₋₁₄ aromatic hydrocarbon
 group or heterocyclic group may be substituted with a
 halogen atom, C₁₋₆ alkyl group, C₁₋₆ alkoxy group, C₂₋₆
 15 alkenyl group, formyl group, C₂₋₆ alkanoyl group, carboxyl
 group, carboxyamino C₁₋₆ alkyl group, C₁₋₆
 alkoxycarbonylamino C₁₋₆ alkyl group, oxo group, nitro group,
 cyano group, amidino group, C₂₋₆ alkenyloxy group, hydroxy
 group, thioxo group, amino group, C₁₋₆ alkylamino group, di
 20 C₁₋₆ alkylamino group, amino C₁₋₆ alkyl group, C₁₋₆
 alkoxycarbonyl group, carbamoyl group, C₁₋₆ alkylcarbamoyl
 group, di C₁₋₆ alkylcarbamoyl group, thiocarbamoyl group,
 C₁₋₆ alkylthiocarbamoyl group, di(C₁₋₆ alkyl)thiocarbamoyl
 group, C₂₋₇ alkanoylamino group, C₂₋₇ alkanoyl(C₁₋₆
 25 alkyl)amino group, thio(C₂₋₇ alkanoyl)amino group, thio(C₂₋₇

alkanoyl)(C₁₋₆ alkyl)amino group, formylamino group,
formyl(C₁₋₆ alkyl)amino group, thioformylamino group,
thioformyl(C₁₋₆ alkyl)amino group, C₂₋₇ alkanoyloxy group,
formyloxy group, mercapto group, C₁₋₆ alkylthio group, C₁₋₆
5 alkylsulfinyl group, C₁₋₆ alkylsulfonyl group, aminosulfonyl
group, C₁₋₆ alkylaminosulfonyl group, di(C₁₋₆
alkyl)aminosulfonyl group, C₁₋₆ alkylsulfonylamino group or
C₁₋₆ alkylsulfonyl(C₁₋₆ alkyl)amino group); or N-oxide or S-
oxide of the compound; salt thereof; or solvate of the
10 above-described compound.

9. A medicament comprising, as an active ingredient,
a compound of any one of Claims 1 to 8, or N-oxide or S-
oxide of the compound, salt thereof, or solvate of the
above-described compound.

15 10. A medicament of Claim 9, which is used for
prevention or treatment of a disease resulting from
abnormal production or secretion of β -amyloid.

11. A medicament of Claim 9, which is used for
prevention or treatment of Alzheimer disease or Down
20 syndrome.

12. A pharmaceutical composition comprising a
compound of any one of Claims 1 to 8, or N-oxide or S-oxide
of the compound, salt thereof, or solvate of the above-
described compound; and a pharmaceutically acceptable
25 carrier.

13. Use of a compound of any one of Claims 1 to 8, or N-oxide or S-oxide of the compound, salt thereof, or solvate of the above-described compound for the preparation of a medicament.

5 14. Use of Claim 13, wherein the medicament is used for prevention or treatment of a disease resulting from abnormal production or secretion of β -amyloid protein.

10 15. Use of Claim 13, wherein the medicament is used for prevention or treatment of Alzheimer disease or Down syndrome.

15 16. A method to treat a disease resulting from abnormal production or secretion of β -amyloid, which comprises administering an effective amount of a compound of any one of Claims 1 to 8, or N-oxide or S-oxide of the compound, salt thereof, or solvate of the above-described compound.

 17. A method of Claim 16, wherein the disease resulting from abnormal production or secretion of β -amyloid protein is Alzheimer disease or Down syndrome.